REMARKS

Favorable reconsideration and allowance of the claims of the present application are respectfully requested.

In the present Office Action, the specification is objected to as failing to provide proper antecedent basis for the claimed subject matter recited in Claim 6. Applicants respectfully submit that in original Claim 6, which was cancelled herein, the applicants inadvertently included a dosage range instead of an energy range.

In view of the cancellation of Claim 6, the objection to the specification has been obviated. Thus, reconsideration and withdrawal of the instant objection to the specification are respectfully requested.

Claims 1-2, 4-5, 6-8, 12, 20, 24, and 26 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures of U.S. Patent No. 6,486,037 to Norcott et al. ("Norcott et al.") and U.S. Patent No. 6,566,734 to Sugihara et al. ("Sugihara et al."). Claims 3 and 9 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable under 35 U.S.C. § 103 over the combined disclosures of Norcott et al., Sugihara et al, and U.S. patent No. 6,417,078 to Dolan et al. ("Dolan et al."). Claims 10 and 11 stand rejected as allegedly unpatentable over the combined disclosures of Norcott et al., Sugihara et al., and U.S. Patent Application Publication No. 2003/0186511 to Yiu et al. ("Yiu et al."). Claims 15 and 21-23 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures Norcott et al., Sugihara et al. and U.S. Patent Application Publication No. 2002/0153587 to Adkisson et al. ("Adkisson et al."). Claim 13 stands rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures Norcott et al., Sugihara et al., Yiu et al. and U.S. Patent No.

6,673,695 to Lim et al. ("Lim et al."). Claims 14 and 15 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures Norcott et al., Sugihara et al., Yiu et al and U.S. Patent No. 6,162,677 to Miyakawa et al. ("Miyakawa et al."). Claims 16, 18 and 19 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures Norcott et al., Sugihara et al., Yiu et al., Miyakawa et al. and U.S. Patent No. 6,001,706 to Tan ("Tan"). Claim 17 stands rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures Norcott et al., Sugihara et al., Yiu et al., Miyakawa et al. and U.S. Patent No. 5,360,995 to Graas et al. ("Graas et al."). Claim 25 stands rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures Norcott et al., Sugihara et al., Yiu et al., Miyakawa et al. and U.S. Patent No. 6,110,779 to Yang et al. ("Yang et al."). Claim 27 stands rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures Norcott et al., Sugihara et al., Yiu et al., Miyakawa et al. and U.S. Patent No. 6,465,290 to Suguro et al. (" Suguro et al.").

Applicants respectfully submit that the claims of the present application are not rendered obvious by any of the references cited by the Examiner in the present Office Action. Specifically, none of the applied references in the ten combinations suggested by the Examiner teaches or suggests the claimed method of forming a thin channel MOSFET which includes, among other steps, a step of providing ***a localized oxide region in a SOI layer on top of, and in contact with, an upper surface of a buried insulating layer*** thereby forming a thinned portion of the SOI layer, said localized oxide region being self-aligned with a channel via. As such, the claimed method thins the SOI layer by forming a localized oxide region 25 in the SOI layer 19 which is on top of, and

in contact with, the buried insulating layer 13. See FIGS. 7, and 9-14 of the present application.

The principal reference in each of the ten obviousness rejections, i.e., Norcott et al., is defect since it does not teach or suggest the claimed step mentioned above. That is, Norcott et al. does not teach or suggest a method wherein ***a localized oxide region is provided in a SOI layer on top of, and in contact with, an upper surface of a buried insulating layer*** thereby forming a thinned portion of the SOI layer. Norcott et al. provides a method of forming a defect induced buried oxide region in a semiconductor substrate. FIGS. 1(a)-1(b) shows one embodiment of the prior art wherein a damaged region 12 and an amorphous region 14 are formed into a bulk or performed SOI substrate. The SOI substrates are shown in FIGS. 5(a)-5(c) Regions 12 and 14 are not oxides at this point of the prior art process, but instead the regions include oxygen ions. After annealing, regions 12 and 14 are converted to buried oxide 16 which is located within the semiconductor layer 10. In the second embodiment of the prior art, Norcott et al. discloses that an intermediate structure FIG. 1(c) is formed that includes a highly defective Si layer 18 atop a buried oxide 16. Fig. 1(d) shows the annealed structure of FIG. 1(c) including a buried oxide 20. Applicants respectfully submit that Norcott et al. does not teach or suggest the formation of a localized oxide region that is located on and in contact with a buried insulating layer. In the embodiment where SOI substrates are used, the buried oxide is formed into one of the SOI layers, but Norcott et al. does not teach or suggest that the newly created buried oxide is in contact with the performed buried oxide region.

In addition to the principal reference discussed above, each of the ten rejections include Sugihara et al. as a secondary reference that is used in combination with Norcott et al: Applicants respectfully submit that Sugihara et al. does not alleviate the defects mentioned above to Norcott et al. since the applied secondary reference does not teach or suggest the claimed step of providing a localized oxide region that is on top of and in contact with the buried oxide. Sugihara et al. describes a process of making a FET utilizing a replacement case process. The description of Sugihara et al. is silent in regard to forming a localized oxide within an SOI layer that thins the SOI layer, yet it is located on top of and in contact with a buried oxide layer. This feature, which is present in the claimed method, is absent from the disclosure of Sugihara et al.

The remaining applied references, namely Dolan et al., Yiu et al., Adkisson et al., Lim et al., Miyakawa et al., Tan, Graas, Yang et al., and Suguro et al., do not alleviate the above defects in the combined disclosures of Norcott et al. and Sugihara et al. Appplicants note in this regard that none of these other applied tertiary references teach or suggest a method including a step of providing a localized oxide that has the features recited in Claim 1 of the present application. Applicants further note in this regard that the Examiner has relied on each of the above-mentioned tertiary references as disclosing specific aspects of applicants' dependent claims. As such, Dolan et al., Yiu et al., Adkisson et al., Lim et al., Miyakawa et al., Tan, Graas, Yang et al., and Suguro et al. are further removed from the processing steps recited in Claim 1 than is the combination of Norcott et al. and Sugihara et al.

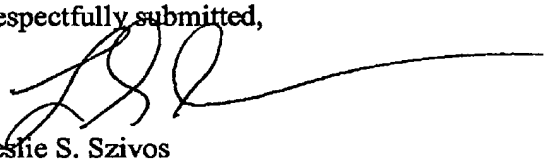
The various §103 rejections also fail because there is no motivation in the applied references which suggest modifying the disclosed methods to include the step of forming

the localized oxide having the structural relationship to the buried insulating layer recited in the claims of the present invention. Thus, there is no motivation provided in the applied references, or otherwise of record, to make the modification mentioned above. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Vaeck, 947 F.2d, 488, 493, 20 USPQ 2d. 1438, 1442 (Fed.Cir. 1991).

The rejections under 35 U.S.C. §103 have been obviated; therefore reconsideration and withdrawal thereof is respectfully requested.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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